REMARKS

This is intended as a full and complete response to the Office Action dated October 3, 2003, having a shortened statutory period for response set to expire on January 3, 2004. Claims 1, 4-5, 7-10, 13-18, 20, 23, 25-26, 28-31, 33-42, 44-45, 47-50, 52-61, 65-66 and 68 have been amended to more clearly recite aspects of the invention. Applicant believes no new matter has been introduced by the amendments presented herein. The amendments have been made in a good faith effort to advance prosecution on the merits. Claims 6, 27 and 46 have been cancelled without prejudice. Applicant reserves the right to subsequently take up prosecution of the claims as originally filed in this application in a continuation, a continuation-in-part and/or a divisional application. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1-5, 7-14, 16, 17, 20, 23-26, 28-34, 36, 37, 39, 42-45, 47-53, 55, 56, 58, 65 and 68 stand rejected under 35 U.S.C. § 112, second paragraph. More particularly, the Examiner takes the position that claims 1-5, 7-14, 16, 17, 23-26, 28-34, 36, 37, 42-45, 47-53, 55 and 56 are indefinite because the Examiner considers the phrase "high power density light beam" or "high power density laser beam" a relative phrase. Accordingly, the phrase "high power density light beam" or "high power density laser beam" in claims 1, 5, 7, 10, 14-15, 18, 23, 26, 28, 31, 34-35, 38, 42, 45-47, 50, 53-54 and 57 has been amended to "light beam" or "laser beam". Accordingly, withdrawal of the rejection is respectfully requested.

The Examiner further takes the position that claims 4, 13, 20, 25, 33, 39, 44, 52, 58, 65 and 68 are indefinite because the Examiner considers the chemical formulas recited in the claims as not being conventional formulas. Claims 4, 13, 20, 25, 33, 39, 44, 52, 58, 65 and 68 have been amended to recite formulas in a conventional manner. Accordingly, withdrawal of the rejection is respectfully requested.

The Examiner further takes the position that claims 65 and 68 are indefinite because the claims recite the term "the other applicable gases" which the Examiner considers as undefined. The phrase "and other applicable gases" has been deleted

from claims 65 and 68. Accordingly, withdrawal of the rejection is respectfully requested.

Claims 61-68 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,821,175 ("*Engelsberg*"). Applicant respectfully traverses this rejection.

Engelsberg is generally directed to removing contaminants from a substrate treatment surface. More particularly, *Engelsberg* proposes a method of removing surface contaminants from the surface without altering the molecular crystal structure of the surface being treated. Gas is flowed across the surface, and the surface is continuously irradiated at an energy density and duration great enough to release surface contaminants from the surface, but small enough not to alter the molecular crystal structure of the surface. The irradiation energy density and duration are such that the heat of formation is not approached on the surface, thereby preventing ablation, annealing and melting from occurring. In this manner, according to *Engelsberg*, the proposed method avoids the drawbacks typically generated by ablation.

Consequently, *Engelsberg* does not teach or disclose irradiating at least one laser beam into the interior of the process chamber, wherein the laser beam ablates residues from the process chamber. In fact, *Engelsberg* teaches away from the claimed invention since the irradiation in *Engelsberg* is designed to prevent ablation from occurring. Accordingly, claims 61 and 66 are patentable from *Engelsberg*.

Claims 1-60 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Nos. 6,095,085, 6,153,529 and 6,576,564 ("*Agarwal*") in view of Applicant's own background section.

Agarwal is generally directed to a method for fabricating a semiconductor device. The method includes the steps of creating an activated species in a remote plasma activation region and transferring the activated species from the remote plasma activation region through a transparent conduit to a processing chamber. A microwave generator coupled to the remote plasma activation region is configured to provide power to create the activated species inside the remote plasma activation region. A photo energy source is provided to sustain activation of the species during the transfer from

the remote plasma activation region to the processing chamber. However, *Agarwal* does not teach or disclose irradiating at least one light beam to the section or to the process chamber, wherein the light beam has an energy density ranging from about 1kW/mm^2 to about 2MW/mm^2, as recited in claims 1, 23 and 42. *Agarwal* also does not teach or disclose irradiating at least one light beam comprising an incoherent light beam to the section or to the process chamber, as recited in claims 10, 31 and 50. *Agarwal* also does not teach or disclose irradiating at least one laser beam having a wavelength range from about 190 nm to about 10 μm and an energy density range from about 1 kW/mm^2 to about 2 MW/mm^2 to the section or to the process chamber, as recited in claims 18, 38 and 57. In fact, *Agarwal* mentions nothing regarding the energy density of the photo energy source, the wavelength range of the photo energy source or the fact that the light beam is an incoherent light beam.

The Examiner attempts to supplement these missing limitations with the background section of Applicant's application. However, the background section of Applicant's application also does not teach or disclose irradiating at least one light beam to the section or to the process chamber, wherein the light beam has an energy density ranging from about 1kW/mm^2 to about 2MW/mm^2, as recited in claims 1, 23 and 42; irradiating at least one light beam comprising an incoherent light beam to the section or to the process chamber, as recited in claims 10, 31 and 50; and irradiating at least one laser beam having a wavelength range from about 190 nm to about 10 μm and an energy density range from about 1 kW/mm^2 to about 2 MW/mm^2 to the section or to the process chamber, as recited in claims 18, 38 and 57.

Neither *Agarwal* nor the background section of Applicant's application, alone or in combination, teaches or discloses irradiating at least one light beam to the section or to the process chamber, wherein the light beam has an energy density ranging from about 1kW/mm^2 to about 2MW/mm^2; irradiating at least one light beam comprising an incoherent light beam to the section or to the process chamber; and irradiating at least one laser beam having a wavelength range from about 190 nm to about 10 μm and an energy density range from about 1 kW/mm^2 to about 2 MW/mm^2 to the section or to the process chamber. Furthermore, there is no suggestion discerned in *Agarwal* or the background section of Applicant's application of modifying the devices or methods

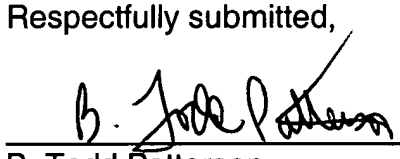
disclosed therein in the direction of the present invention, nor does there appear to be any suggestion of the desirability of such modifications. Therefore, claims 1, 10, 18, 23, 31, 38, 42, 50 and 57 are patentable over Agarwal in view of the background section of Applicant's application. Claims 2-9, 11-17, 19-22, 24-30, 32-37, 39-41, 43-49, 51-56 and 58-60 are also patentable over *Agarwal* in view of the background section of Applicant's application since they depend from claims 1, 10, 18, 23, 31, 38, 42, 50 and 57, respectively.

The Examiner has rejected various dependent claims. However, because the rejections to the respective base claims have been overcome, Applicant submits that the rejections for the dependent claims have been obviated.

In conclusion, the references cited by the Examiner, neither alone nor in combination, teach, show, or suggest the claimed method or apparatus. Having addressed all issues set out in the office action, Applicant respectfully submits that the claims are in condition for allowance and respectfully request that the claims be allowed.

The prior art made of record is noted. However, it is believed that the secondary references are no more pertinent to the Applicant's disclosure than the primary references cited in the office action. Therefore, it is believed that a detailed discussion of the secondary references is not deemed necessary for a full and complete response to this office action. Accordingly, allowance of the claims is respectfully requested.

Respectfully submitted,



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